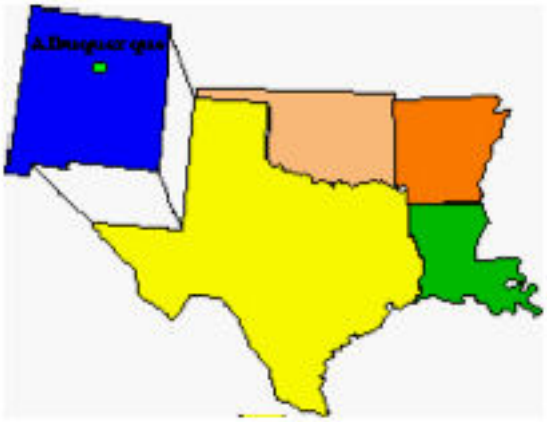
AT&SF ALBUQUERQUE SUPERFUND SITE

Bernalillo County, South Valley Area
New Mexico



EPA Region 6
EPA ID# NMD980622864
Site ID: 0600879
Contact: Katrina Higgins-Coltrain 214.665.8143
State Congressional District: 1
Fact Sheet Updated: August 2006

Current Status

With the finalization of the Treatability Studies, BNSF is now concentrating on Final Design documents for the soil and ground water remedies. Draft Final documents are scheduled for submittal in August 2006 for review by EPA and the New Mexico Department of Environmental Quality.

BNSF continues to monitor the ground water and recover dense non-aqueous phase liquid (DNAPL) from the ground water.

Benefits

Several Cleanup and Removal Actions were completed from 1990 through 2000. These actions eliminated unacceptable health risks associated with soil, sludge and waste.

In July and August of 1990, BNSF removed and disposed of approximately 8,250 tons of creosote-tainted debris in connection with a state enforcement action. This debris was comprised of plant demolition wreckage that had been placed into the east end of the wastewater reservoir. Approximately 45,000 square feet of wastewater reservoir soils were excavated to a depth of 2 to 5 feet.

In 1996, tie storage areas with total semi volatile organic concentrations above 41.1 mg/kg were excavated and backfilled with clean soil after confirmation testing was performed to ensure that the contaminated soil had been excavated.

In April 1999, sludge and process residue from the wastewater reservoir was excavated in response to an EPA Unilateral Administrative Order (UAO), which specifically called for BNSF to remove process residues located within the old wastewater reservoir. Because of the fluid nature of this material and a lack of a well-defined contact between process residues and soil, up to 2 feet of underlying soil was removed, and at some locations, excavations were as deep as 6 feet. A total of approximately 83 gondola cars (approximately 6,012 tons) were filled and transported offsite for disposal. As a direct result of this removal action, the most highly contaminated soil and sludge was removed.

In 1999, three recovery trenches were installed to collect dense non-aqueous phase liquid (DNAPL) through a gravity feed system. In 2000, five recovery pumps were installed to extract DNAPL from the Shallow and Intermediate Aquifers. These pumps continue to extract DNAPL from the aquifer.

National Priorities List

Proposal Date: October 14, 1992
Final Listing Date: December 16, 1994

Location: The site is located at 3300 Second Street, SW, in the South Valley area of the City of Albuquerque, Bernalillo County, New Mexico.

Population: The closest residential area is about 0.5 miles to the southwest and a single residence (mobile home) is located about 600 feet west of the site. Two major residential areas are located about 2 miles north and 1.5 miles south of the site. Major population centers are located either west of the Rio Grande, north of Woodward Drive or east of Interstate 25.

Setting: The facility is a part of the plant property that totaled more than 85 acres in 1907, and was constructed from 1907 to 1908. The facility operated as a wood pressure treatment plant from March 1908 to January 1972, and primarily used creosote and oil mixtures for the manufacture of pressure treated wood products, including railroad cross ties, bridge ties, switch ties, bridge timbers, road crossing materials, bridge piling materials, lumber, stock pen posts and fence posts. In 1972, the plant was totally dismantled, and the only physical feature remaining on-site is the wastewater reservoir/wastewater sump.

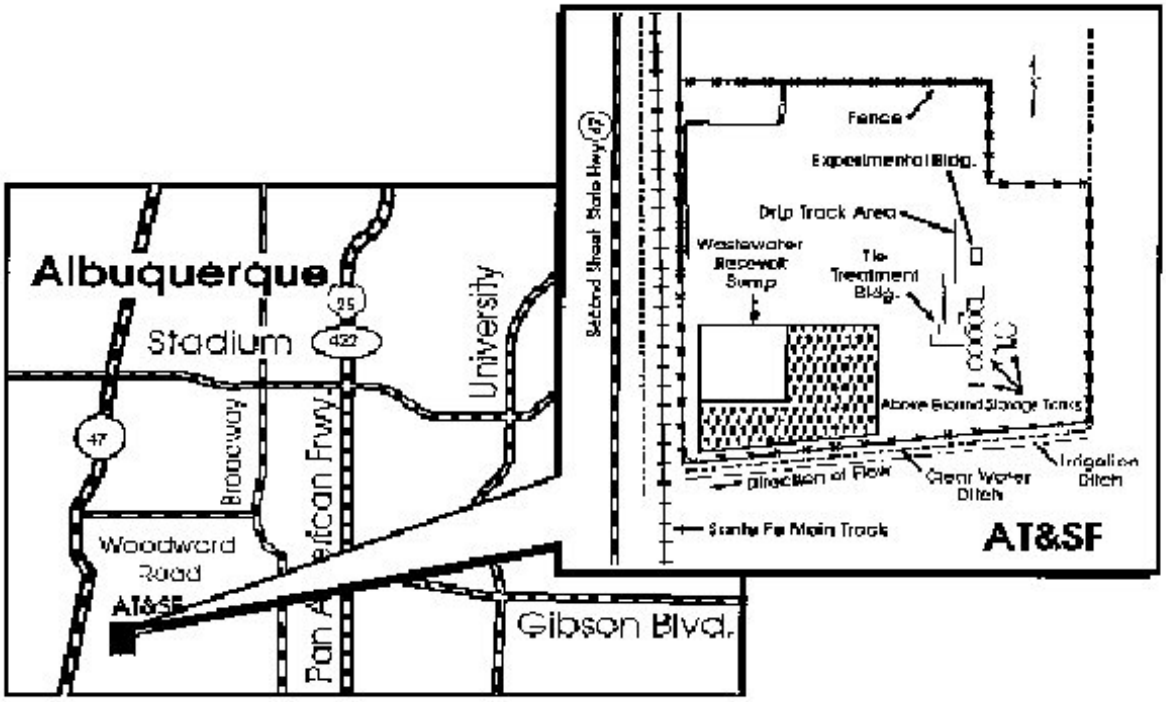
Hydrology: The site is located in the inner Rio Grande Valley, which is incised into the sedimentary basin fill of the Albuquerque basin. The sedimentary basin fill consists largely of the Santa Fe Formation with some overlying recent deposits represented by the Rio Grande Alluvium. At the site, the Rio Grande Alluvium is about 53 to 82 feet thick and consists of two water-bearing zones: the Shallow Aquifer which extends to an average depth of 20 feet and the Intermediate Aquifer which extends to an average depth of around 60 feet. A discontinuous silty clay layer separates these two aquifers. The underlying Santa Fe Formation has been divided into three parts (upper, middle and lower) that are inter-connected. In the vicinity of the site, the Santa Fe Formation is approximately 4,750 feet thick, with the upper Santa Fe Formation estimated to be about 650 feet thick. At the site, ground water flow for the Shallow and Intermediate Aquifers is generally in the east-southeast direction.

Principal Pollutants: The Cleanup and Removal Actions addressed most of the contaminated soil, sludge and waste.

Groundwater: Most of the organic contamination found at the site occurs as a dense non-aqueous phase liquid (DNAPL) with organic compounds that slowly dissolve into the ground water followed by some preferential sorption to soil particles in the aquifer matrix. The RI report indicates that DNAPLs are present in the subsurface as either "free phase" or "residual phase." The free phase is that portion of the DNAPL that can continue to migrate and sink into the aquifer, whereas the residual phase is that portion of the DNAPL that is trapped in pore spaces by capillary forces and cannot generally migrate as a separate liquid. Both occurrences of the DNAPL act as continuing sources of contamination to ground water. It is estimated that there are between 59,300 and 70,000 gallons of DNAPL at the Site, and it has been found down to depths of 65 feet.

Soil: The soil contaminants consist of Polynuclear Aromatic Hydrocarbons (PAHs). In the treatment process area, concentrations are as high as 1,356 mg/kg and in the drip track area, concentrations are as high as 7,000 mg/kg. These maximum concentrations are typically near the points of release, e.g., the tank car unloading area, the above ground storage tanks and the weighing station for treated ties.

Site Map



Human Health And Ecological Risk Assessment

The numerical cleanup goals for the ground water are the Primary Drinking Water Maximum Contaminant Level Goals and the Maximum Contaminant Levels (MCL) per Section 300.400(g)(2) of 40 CFR. The numerical cleanup goals for the soil include 200 milligrams per kilogram zinc and 7.8 milligrams per kilogram Benzo(a)pyrene equivalent.

Record Of Decision

Soil, DNAPL, and Ground Water: The Record of Decision was signed on June 27, 2002.

The major elements of the remedy include:

Soil Remediation: The selected remedy consists of elements of alternative S-8, modified to require elements of alternative S-6 for areas of the Site where dense non-aqueous phase liquid (DNAPL) contaminated soil is encountered. This modified soils remedy adopts the approach utilized by EPA for dealing with DNAPL hot spots that is incorporated in the selected ground water remedy below.

Alternative S-8, in-situ solidification/stabilization, capping, and run-off/run-on management are the selected remedy for contaminated soils above the remediation goals that do not contain DNAPL.

Alternative S-6, off-site incineration is the selected remedy for those portions of the Site where DNAPL-contaminated soil is encountered during the excavation of soil. This will consist of the excavation of DNAPL-contaminated soils, transportation to an off-site hazardous waste incinerator facility, and incineration of the DNAPL-contaminated soil at such facility.

Ground Water Remediation: The selected remedy for ground water is an aggressive performance-based approach for remediation of contaminated Site ground water. This performance-based approach consists of the following major components

Ground water restoration through pumping and treatment and re-injection alternatives GW-2, UV-oxidation treatment, filtration, carbon adsorption and disposal of ground water, GW-3, Biological treatment, clarification, filtration and disposal of ground water, or GW-4, Filtration, clay adsorption, carbon adsorption and disposal of ground water will be accomplished through a performance based approach. Depending upon the outcome of operational performance review and evaluation during the remedial design phase, any one of these alternatives or a combination thereof will actually be implemented during remedial construction. The performance criteria that will determine which of these alternatives will actually be implemented is their ability to meet ground water remediation goals for both the aquifer and the treated ground water.

DNAPL source removal and hot spot treatment will be accomplished through operational performance based evaluation and review of alternatives GW-5, Steam Flushing, GW-6, Co-solvent alcohol flushing, and GW-7, Oxidation during remedial design, followed by implementation of one of these approaches or a combination thereof with conventional DNAPL recovery methods during remedial construction. The performance criteria that will determine which of these alternatives will actually be implemented is their ability to attain DNAPL mass reduction so that ground water remediation goals for the aquifer are met.

Site Contacts

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